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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,505	03/29/2002	Chun Byung Yang	5333-02400	5543

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04/08/2004

EXAMINER

BROWN, JENNINE M

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/980,505

Applicant(s)

YANG ET AL.

Examiner

Jennine M. Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7,8,10-16 and 18-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7,8,10-16 and 18-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01/30/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### ***Claim Objections***

Examiner has withdrawn the claim objection.

### ***Claim Rejections - 35 USC § 112***

Examiner has entered Applicants amendment, which obviates Examiners previous rejection, therefore the rejection has been withdrawn.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-8, 10-16, 18-35 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kioka, et al. (US 6235854 B1).

Kioka, et al. teach a titanium catalyst composition produced by contacting a magnesium compound (col. 3, l. 50-52; col. 4, l. 1 – col. 5, l. 7) solubilized in alcohol (col. 5, l. 8-52) with a first titanium compound (col. 6, l. 35 – col. 7, l. 12), polybasic carboxylic acid ester (col. 7, l. 56 – col. 8, l. 60) and then a second titanium compound (col. 10, l. 56-59), a silica carrier (col. 9, l. 58-64; col. 14, l. 15 – col. 15, l. 13) with organoaluminum compound (col. 12, l. 60 – col. 13, l. 58). The disclosure encompasses all the limitations of the pending claims.

In the alternative, it would have been obvious for one of ordinary skill in the art to change the Lewis acid complex of the catalyst from an aluminum to a boron compound because they are known equivalents in the art and belong in the same group therefore will have similar chemical properties.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re*

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*Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 7-8, 10-16, 18-35 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of US 6559250 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because a method of forming a catalyst has been disclosed where a titanium catalyst is formed by contacting magnesium halide with an alcohol and an ester compound which is a known electron donor, a phosphorus compound and a silicon compound. It would have been obvious to one of ordinary skill in the art to substitute a boron based Lewis acid for a phosphorus, sulfur or nitrogen based radical complex because it is known that the Lewis acid and radical complexes are equivalents in the art.

Claims 7-8, 10-16, 18-35 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/399,193.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst produced by preparing a magnesium solution by contacting a halogenated magnesium compound with alcohol, reacting with an ester compound having at least one hydroxyl complex and a boron compound with at least one alkoxy group and 10/399193 "optionally" reacting with an additional titanium compound where the instant

application reacts with an additional titanium compound with a silicon compound. It would have been obvious to one of ordinary skill in the art to modify the catalyst because the second titanium complex can be complexed to silicon depending on whether or not one wants a homogeneous or heterogeneous system and it is well known in the art that silicon can be used as a carrier or a bridging ligand.

Claims 7-8, 10-16, 18-35 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/171084.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst produced by preparing a magnesium solution by contacting a halogenated magnesium compound with alcohol, reacting with an ester compound having at least one hydroxyl complex and a silicon compound with at least one alkoxy group and reacting with an additional titanium and alkyl halide mixture. It would have been obvious to one of ordinary skill in the art to modify the catalyst because the second titanium complex can be complexed to silicon depending on whether or not one wants a homogeneous or heterogeneous system and it is well known in the art that silicon can be used as a carrier or a bridging ligand.

#### ***Relevant Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US 6028149 teaches a method of making a catalyst composition where a silyated silica support of magnesium halide or magnesium alkyl halide (col. 3, l. 9-14) and titanium (col. 3, l. 15-23) in an alcohol solvent (col. 3, l. 24-31) are mixed with an ester (electron donor - col. 4, l. 4-5; Lewis base - col. 4, l. 49-50) and again titanating the catalyst precursor (col. 1, l. 57 - col. 2, l. 7). Silylation of carrier by hexamethyl disilane or trimethylchlorosilane (col. 2, l. 62-65) or use of silicon tetrachloride as halogenating agent (col. 4, l. 8-15) is taught.

### ***Response to Arguments***

1. Kioka, et al. (US 6235854 B1)

Applicant's arguments filed 01/26/2004 have been fully considered but they are not persuasive. Examiner points out to applicants that claim 1 is a product by process claim and the product produced has not been shown by Applicants to be an unobvious variant of the prior art processes. The examiner has reprinted for applicants the appropriate section of the MPEP stating that it is Applicant's burden to provide evidence to the contrary.

"MPEP 2113

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted)

ONCE A PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS FOUND AND A 35 U.S.C. 102 /103 REJECTION MADE, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBVIOUS DIFFERENCE "The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) (The claims were directed to a zeolite manufactured by mixing together various inorganic materials in solution and heating the resultant gel to form a crystalline metal silicate essentially free of alkali metal. The prior art described a process of making a zeolite which, after ion exchange to remove alkali metal, appeared to be "essentially free of alkali metal." The court upheld the rejection because the applicant had not come

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forward with any evidence that the prior art was not "essentially free of alkali metal" and therefore a different and unobvious product.).

THE USE OF 35 U.S.C. 102 /103 REJECTIONS FOR PRODUCT-BY- PROCESS CLAIMS HAS BEEN APPROVED BY THE COURTS "The lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972)."

Furthermore regarding the standard for anticipation, the MPEP states that for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. It is the Examiner's assertion that the catalyst of Kioka, et al. inherently has all of the features of the catalyst composition. Whether the electron donor is used internally or externally it is still being used for the same purpose and unless evidenced to the contrary, is not significant. See passages cited supra.

2. Ro, et al. (US 6559250 B2)

Applicant's arguments filed 01/26/2004 have been fully considered but they are not persuasive. Examiner points out to applicants that claim 1 is a product by process claim and the product produced has not been shown by Applicants to be an unobvious variant of the prior art processes. See paragraph on MPEP supra.

Furthermore regarding the standard for anticipation, the MPEP states that for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. It is the Examiner's assertion that the catalyst of Ro, et al. inherently has all of the



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features of the catalyst composition. See passages cited supra. The method of making of the catalyst is described within that of the cited patent and does disclose each of the components required to make the catalyst.

Examiner maintains the previous rejection.

4. Yang, et al. (10/399,193)

In response to applicant's argument that the claims do not appear to teach the same thing, examiner respectfully points out to applicants that the functional language of claim 1 of the copending application is almost identical to that of claim 7 of the instant application.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine M. Brown whose telephone number is (571) 272-1364. The examiner can normally be reached on M-F 8:00 AM - 6:00 PM; first Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jmb



**Mark L. Bell**  
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